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Official Code Interpretation
Bureau of Petroleum Products and Tanks
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Display of Merchandise in Fuel Dispensing Area

CODE SECTION: Comm 10.25 – NFPA 30A, section 9.2.7, Housekeeping. This interpretation supercedes all previous interpretations on this subject.

Issue:
The Bureau has experienced an increasing number of complaints and concerns relating to merchandise storage in and around the vehicle fuel dispensing areas at public retail service stations. Fuel dispensing facilities, such as convenience stores, are finding the dispensing area convenient to display palletized merchandise, snack and pop dispensers, and propane cylinder exchange racks, apparently without realizing the impact on public safety and attendant oversight. The concerns and observations expressed range from pedestrian traffic obstacles to fire safety. Observations by inspectors reflected entire dispenser-to-dispenser areas packed with combustible merchandise, as well as a customer practice of placing portable gasoline containers on the merchandise while the container is being filled. The terminology "combustible merchandise" includes the goods and the packaging.

Discussion:
As a result of an increase in dispenser area fire incidents over the past four years due to static discharges during vehicle fueling, the bureau and local fire departments have become increasingly concerned with dispenser area operations, congestion and practices that may impact fire safety and increase the risk. There are many concerns associated with the increasing practice of displaying merchandise within the fuel dispensing area. The most important from the department's standpoint are concerns with egress from the dispenser area during a fire, routine oversight and observation by the facility attendant of the activity in the dispenser area, and emergency service response.

The Comm 10 – Flammable and Combustible Liquids Code adopts the National Fire Prevention Association (NFPA) standard NFPA 30A-2000 Edition. The Bureau's concerns relating to the combustible nature of the merchandise are addressed through NFPA 30A - section 9.2.7, *HouseKeeping*, which requires that the *dispensing area* and the area within any dike shall be kept free of vegetation, debris, and *any other material that is not necessary to the proper operation of the motor fuel dispensing facility.* The department requires that the dispenser area be kept free of debris and waste clutter; however, with the increasing practice of displaying merchandise within the dispenser area, it has become necessary to better define the department's expectation and policy associated with dispenser area merchandise display. The department interprets the NFPA 30A application of this section to significantly restrict material that poses a fire risk due to its combustible or absorptive nature, thereby contributing to the ignition or extension of a fire. Shrink-wrap, a common packaging material, is highly combustible. Gardening mulch and bundles of firewood pose a risk from both the combustible and absorptive characteristics of the material. Vapors from flammable or combustible gases and liquids such as: LP gas, kerosene and gas-line

antifreeze products, pose both a significant primary or secondary fire risk and the respective containers may pose the increased risk of a container explosion.

During the assessment and discussion of the practice of merchandise storage in the dispensing area it was discovered that standards and codes do not clearly define the "dispensing area." An analysis of other related regulations helps clarify the application of the NFPA 30A rule.

Attendant observation: NFPA 30A-9.4, *Operator Requirements for Attended Self-Service Motor Fuel Dispensing Facilities*, addresses attendant oversight:

> ***9.4.2*** *There shall be at least one attendant on duty while the self-service facility is open for business. The attendant's primary function shall be to supervise, observe, and control the dispensing of Class I liquids while said liquids are actually being dispensed.*
>
> ***9.4.3*** *The responsibility of the attendant shall be as follows:*
> *(1) Prevent the dispensing of Class I liquids into portable containers not in compliance with 9.2.3.1*
> *(2) Prevent the use of hose nozzle valve latch-open devices that do not comply with 6.6.2*
> *(3) Control sources of ignition*
> *(4) Immediately activate emergency controls and notify the fire department of any fire*
> *(5) Handle accidental spills and fire extinguishers if needed*
> *The attendant or supervisor on duty shall be mentally and physically capable of performing the functions and assuming the responsibility prescribed in Section 9.4.*

Many of the merchandising display practices in and around the dispensing area limit the ability of the attendant to adequately observe and monitor what is taking place in the dispensing area, and therefore do not fulfill the operator requirements of section 9.4.

LPG cylinder storage: NFPA 58, Liquefied Petroleum Gas Code 1998 Edition, sections 5.4.1 and 5.4.1.2, adopted by reference in Comm 40 (section 8.4.1.1(3) in 2004 edition NFPA 58), state that for storage outside of buildings for cylinders waiting use, resale or cylinder exchange, the cylinders shall be located at least 20 feet from any automotive service station fuel dispenser.

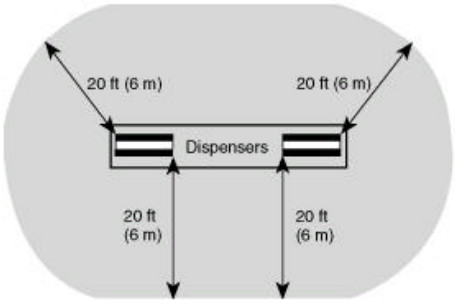
Snack and drink dispensers: Dispensing machines pose two hazards. This type of electrically operated equipment is not normally constructed with electrical components of the proper electrical classification of to be placed in a fuel dispensing area. However, there are some vending machines that carry a listing for placement on dispenser island, although that does not mean that the listing label results in their placement as code complying. Another significant risk with fuel dispensing area placement is increased pedestrian traffic across and along a vehicular traffic lane in the dispensing area.

Dispensing area egress: Discussion of the dispensing area concerns included assessment of people movement, either in a flight mode or travel to activate an alarm. Typically, the placement of the vehicle being fueled, obstruction resulting from the fueling hose connection, location of the dispenser, canopy structural supports and associated equipment significantly limit egress options. Merchandising arrangement (height and spacing) in addition to the vehicle and dispenser hose placement can significantly impede escape to allow only one narrow path of egress. This is not only a concern for the individual fueling the vehicle at which the fire may originate, it is a concern for the egress of individuals at the adjacent fuel dispenser locations. Egress requirements are typically associated with building evacuation scenarios; in Wisconsin egress requirements are addressed by the adoption of the International Building Code (IBC). IBC s. 1005.3.3 states that the minimum width of an exit passageway serving an occupancy load of less than 50 people shall not be less than 36 inches. This logic is applied by the bureau in addressing the issue of the display of merchandising, due to the similarities between a dispenser area evacuation and a building

evacuation. Fueling area canopies are constructed under the building code, therefore having a direct relationship to the building code.

Emergency services response: Merchandise arrangement can also play a significant role in how effective emergency services response is to a fire in the fuel dispensing area. Stacking height and spacing of display material can greatly affect the ability to mitigate a fire and keep it from spreading to vehicles and structures on the service station property.

Controlled areas for ignition sources: In examining the various sections of the NFPA 30A code there are numerous references to a 20-ft. distance used as a standard distance for exclusion of ignition sources. Six prominent sections of the NFPA 30A standard: 6.3 *Requirements for Dispensing Devices, 6.5 Requirements For Dispensing Hoses, 6.7 Emergency Electrical Disconnection,* 8.3 *Installation in Classified Locations*, 9.2.5 *Basic Fire Control* and 10.1 *Vapor Processing Systems* all use the 20-ft. distance in the context of fire safety. This implies that a 20-ft exclusion zone is considered by the NFPA code to be a controlled area where dispensing operation safety is regarded to be of the highest priority, with all other activities to be of secondary significance. The NFPA 30A - 6.5.1 requirement that the hose not exceed 18' keeps the hose and nozzle within the 20' control area. The accompanying graphic depicts the 20-foot zone adjacent to dispensers to demonstrate how the bureau characterizes the controlled area as it applies to the fuel dispensing area.



Dispensing area control area.

Conclusion / resolution:

In consideration of the NFPA egress requirements, attendant requirements, consistency of enforcement, overall department mission of providing safe public fueling facilities, while still recognizing business practices; the department has determined that all dispenser area merchandising materials shall be spaced a minimum of 3'. horizontally from the dispenser cabinet, with an overall height of no greater than 3' will meet the intent of NFPA 30A, section 9.27. These limitations apply to the area within the 20' radius of the dispensers This includes trash receptacles and window washing fluid containers. An example of an acceptable dispenser area layout with merchandising materials is shown in figure 1.

Figure 1: Acceptable merchandising display arrangement in dispensing area

LP cylinders and electrical equipment must also be placed in accordance with any additional requirements imposed by Comm 40, Comm 16 and Comm 14.

Figure 2 and 3 are examples of a merchandising display being an acceptable horizontal distance from the dispensers, but the display stacking height is too high.

Figure 4 illustrates a situation where the merchandise display would be considered both too close to the dispenser, and too high of a stacking height.

Figure 2: Display too high.

Figure 3: Display too high and unbalanced

Figure 4: Display too close and too high in relation to dispenser.

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